



2023 ANNUAL REPORT

WATER POLLUTION CONTROL CENTER



Introduction

The annual report of operations of the Water Pollution Control Center for the year ending December 31, 2023 is respectfully submitted herein. We wish to acknowledge the initiative and cooperation exhibited by those employees listed below in the outstanding operation and maintenance of the wastewater system throughout the year 2023.

The Water Pollution Control Center (WPCC) is comprised of three departments, Water Pollution Control, Sewer Maintenance, and Stormwater Maintenance. Each department operates under separate budgets and are all under the direction of Dave Beach, Superintendent.

The key processes of operations at the WPCC include:

- Provide wastewater treatment that meets or exceeds our National Pollutant Discharge Elimination System (NPDES) Permit
- Meet regulatory reporting requirements set forth in NPDES
- Ensure reliable and valid analytical lab data
- Operation and maintenance of sanitary and storm collection systems
- Condition and dispose of biosolids
- Floodwater management

Staffing

Water Pollution Control Employees:

- Raul Amesquita
- Scott Bash
- David Beach
- Levi Bishop
- Joel Borer

- Wesley Breitigam
- Seth Cole
- James Fox
- Dave Frantz
- Joshua Gearing

Sewer Maintenance Employees:

- Jordan Barton
- Parker Dukes
- Daniel Gonzalez
- Logan Gunter
- Blake Henry
- Colton Kidd

- Savannah Kline
- Devin Luginbuhl
- Werner Roesch
- Seth Rosselit
- Caleb Swope
- Chris Kolhoff
- Michael Stillberger
- Brent Vaughan

Stormwater Maintenance Employees:

- Dana Cramer
- George Elston



The WPCC employs many staff members that are licensed with the State of Ohio in wastewater treatment and collection. To keep their licensure, they must participate in continuing education and continually meet the standards set forth by the Ohio EPA.

The following employees are licensed by the Ohio Environmental Protection Agency:

Waste Water Operator Licenses:

Class 4	Werner Roesch	Class 2
Class 3	Joel Borer	Class 1
Class 3	Josh Gearing	Class 1
Class 3	Caleb Swope	Class 1
Class 3		
	Class 3 Class 3 Class 3	Class 3Joel BorerClass 3Josh GearingClass 3Caleb Swope

Waste Water Collection Licenses:

Mike Stillberger	Class 1		
Dan Gonzalez	Class 1	Brent Vaughan	Class 1
Chris Kolhoff	Class 1	-	

Key Activities

In the year 2023, the City of Findlay WPCC completed its eighty-ninth year of operation by treating 3.3 billion gallons of sewage, which was 297 million gallons less than 2022. The average daily total for sewage treated was 9.216 million gallons per day which is a slight decrease from 2022's daily average of 10.080 million gallons per day. The WPCC was 100% compliant for all regulatory reporting and effluent discharge limits & monitoring requirements of the WPCC NPDES permit. Additional flow data can be found in the graphs included with this report.

To assure compliance with the NPDES permit limits, laboratory testing is performed at the WPCC and several outside laboratories. Two full-time laboratory technicians are required to monitor the specified parameters.

The WPCC has an approved Ohio Environmental Protection Agency Sludge Management Plan and continues to meet all state and federal regulatory requirements for disposal in a landfill. The wastewater biosolids (sludge) generated at the WPCC is conditioned on four belt filter presses located in the Solids Processing Building. 1832.73 dry tons of biosolids were treated and disposed of at the Hancock County Landfill in 2023.



The Water Pollution Control Center also has an approved Ohio Environmental Protection Agency Industrial Pretreatment Program to regulate the disposal of industrial wastewater into the sanitary wastewater collection system. The Water Pollution Control Center is the legal authority responsible for the management, testing, and record keeping of the program. The WPCC works closely with local industries in the pretreatment of their individual discharges and has developed an excellent cooperative spirit to ensure compliance with the pretreatment program

Key Accomplishment

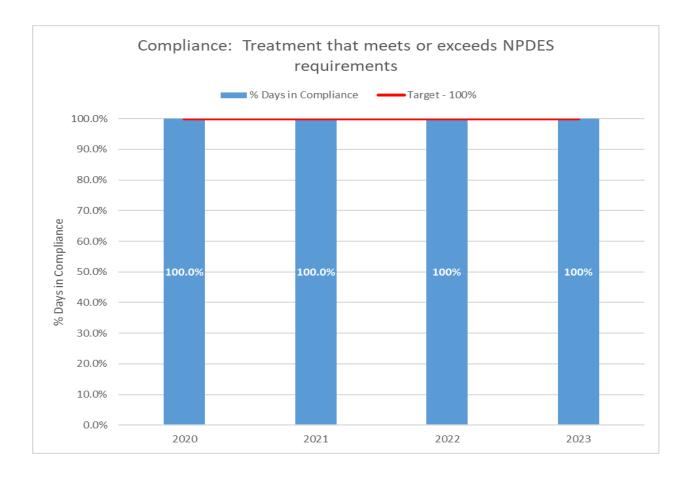
- Oxidation ditch concrete repairs
- Remove combined sewer on W Hardin Street
- Cemetery sewer separation project (SSO removed)
- Water Pollution Control high voltage power repairs
- Lima Avenue pump station upgrade
- Surveillance camera upgrade

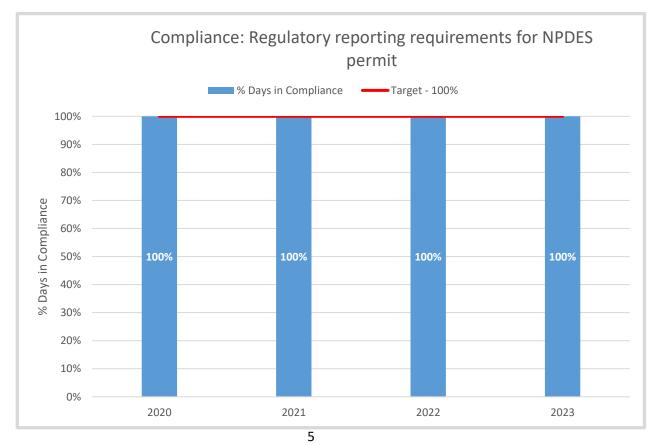
Objectives for the Next Year

In looking ahead to next year, we continue to focus on meeting our key processes while working towards the 2023 objectives of:

- Replace WPC automatic transfer switch (ATS)
- Continue work on LTCP early action projects
- Sewer/manhole lining program
- Sewer televising program
- Install new storm system on Washington Ave
- Work with OEPA on sanitary collection system Spring Lake Subdivision









Budget Summary Sheet

FINDLAY

2024 BUDGET SUMMARY

	A-2-2-2-2					2023 ORIG		2023				\$ change	% change
BUDGET	Item	2021 ACTUAL	. 20	022 ACTUAL		BUD	P	ROJECTION	202	24 REQUEST		024/2023 BUDGET	2024/202 BUDGET
WPC	Personal Services	\$ 1,371,43	0\$	1,487,956	\$	1,643,264	\$	1,669,535	\$	1,600,847	\$	(42,417)	-3%
wre	Other	\$ 1,584,38	5 \$	1,679,017	\$	2,185,148	\$	1,497,576	\$	2,315,902	\$	130,754	6%
Sewer Maintenance	Personal Services	\$ 824,42			-		\$	818,135		981,526		29,508	3%
	Other	\$ 122,41				257,692		429,664		255,164		(2,528)	-1%
Storm Water	Personal Services Other	\$ 160,24 \$ 538,43				182,674	ş	181,217		190,433 130,073		7,759	4%
TOTAL	Uther	\$ 538,43		4,438,190			> \$	4,697,613			5	4,023	3%
TOTAL		\$ 4,001,54		4,430,130	4	3,340,040	*	4,037,013	-	3,413,343	*	127,055	2/0
	BUDGI	THIGHLIGHTS						Sewer		Storm	s	SEWER FUND	EXPENSES
 Additional chemi 	3% adjustment wage ical for phosphorus re placement - conversi	moval						23%					WPC
STAFFING LEVEL	2020	2021		2022		2023		2024					71%
WPC	16	16		16		16		16					
Sewer Maintenance	10	10		10		10		10					
Storm Water	2	2		2		2		2					
Long-term Contro	ol PLan (LTCP) Flow N	lonitoring		2022.40									
				2023 AC	HIE	VEMENTS	_						
Cemetery sewer Water Pollution (ed sewer on W. Hardi separation project (S Control (WPC) high vo mp station upgrade	SO removed)	irs										
	omatic transfer switc n LTCP early action pr			2024 (DBJ	ECTIVES							



MONTH		FLOW (MILLION GALLONS)	
	TOTAL	AVG/DAY	PEAK
JANUARY	309.892	9.997	19.663
FEBRUARY	330.990	11.821	28.894
MARCH	520.452	16.789	32.300
APRIL	298.935	9.965	16.931
MAY	274.178	8.844	16.281
JUNE	265.205	8.840	17.672
JULY	251.535	8.114	12.115
AUGUST	237.732	7.669	18.372
SEPTEMBER	181.772	6.059	9.186
OCTOBER	253.096	8.164	16.214
NOVEMBER	210.062	7.002	10.516
DECEMBER	227.248	7.331	11.712
2023 TOTAL	3,361.097		
2023 AVERAGE	280.091	9.216	17.488
2022 TOTAL	3,658.495		
2022 AVERAGE	304.875	10.048	19.800
2021 TOTAL	4,147.269		
2021 AVERAGE	345.606	11.338	27.876



MONTH	SUSPENDED SOLIDS MG/L		СВ	OAY OD	AMMONIA MG/L		
	RAW	FINAL	RAW	FINAL	RAW	FINAL	
JANUARY	169	4.59	121	3.31	14.6	0.006	
FEBRUARY	179	8.00	115	3.65	12.8	0.010	
MARCH	174	3.60	81	3.47	9.0	0.005	
APRIL	147	3.30	114	2.80	13.3	0.006	
MAY	140	2.30	121	2.39	15.1	0.005	
JUNE	195	4.18	153	1.95	17.3	0.007	
JULY	181	2.85	134	1.90	18.0	0.049	
AUGUST	191	1.30	129	1.39	16.7	0.013	
SEPTEMBER	191	1.28	148	2.00	21.2	0.006	
OCTOBER	224	2.13	158	1.36	19.7	0.594	
NOVEMBER	185	4.13	139	2.63	20.0	0.011	
DECEMBER	164	7.59	143	3.47	18.0	0.009	
				-			
NPDES LIMIT	5/01-10/31	14	N/A	10	N/A	0.91	
(SUMMER)	5/01-10/51	14		10		0.91	
NPDES LIMIT	11/01-4/30	18	N/A	13	N/A	3.5	
(WINTER)	11/01-4/30	10	N/A	13	N/A	3.5	
2023 AVERAGE	178	3.77	130	2.53	16.3	0.060	
2022 AVERAGE	173	5.19	122	4.20	15.7	0.022	
2021 AVERAGE	147	2.29	115	2.84	14.6	0.013	



MONTH		HORUS	COD	E. COLI
	RAW	G/L FINAL	MG/L FINAL	#/100ML FINAL
JANUARY	3.8	0.73	10	TINAL
FEBRUARY	3.8	0.62	12	
MARCH	3.1	0.42	10	
APRIL	3.2	0.71	13	
MAY	3.2	0.73	13	5
JUNE	4.3	0.87	17	24
JULY	4.0	0.81	18	6
AUGUST	3.6	0.71	14	10
SEPTEMBER	4.8	0.91	15	17
OCTOBER	5.0	0.71	28	56
NOVEMBER	4.6	0.83	17	
DECEMBER	3.9	0.81	16	
NPDES LIMIT	N/A	1	N/A	126/100ML
2023 AVERAGE	3.94	0.74	15.25	19.67
2022 AVERAGE	3.83	0.75	23.00	9.83
2021 AVERAGE	3.31	0.74	15.00	4.17



	DISSO	LVED OXYGEN (PPM)			
MONTH	FINAL EFFLUENT	BLANCHARD RIVER ABOVE	BLANCHARD RIVER BELOW		
JANUARY	9.0	12.6	12.1		
FEBRUARY	9.6	13.7	13.5		
MARCH	9.0	11.2	10.9		
APRIL	8.7	11.0	11.0		
MAY	8.1	10.0	9.7		
JUNE	7.7	6.6	7.2		
JULY	7.5	7.0	5.8		
AUGUST	7.5	5.2	5.8		
SEPTEMBER	7.7	7.8	7.8		
OCTOBER	7.7	4.9	5.4		
NOVEMBER	8.5	9.5	8.0		
DECEMBER	8.9	8.4	7.4		
NPDES PERMIT (SUMMER) 5/01-10/31	6.7				
NPDES PERMIT (WINTER) 11/01-4/30	5.3				
2023 AVERAGE	8.3	9.0	8.7		
2022 AVERAGE	8.4	9.2	9.0		
2021 AVERAGE	8.3	8.6	8.3		



2023 Solids processing annual report

	TOTAL SLUDGE	DEWATERED	SUPERNANT	DEWATERED	AVG. S	OLIDS
MONTH	DEWATER & SUPNT.	SLUDGE	GALLONS	SLUDGE	FEED	CAKE
	GALLONS	GALLONS		DRYTONS	%	%
JANUARY	7,765,968	4,463,700	3,302,268	165.95	0.90	14.00
FEBRUARY	7,734,370	4,500,600	3,233,770	155.89	0.80	14.40
MARCH	8,936,380	5,463,600	3,472,780	199.77	0.88	16.20
APRIL	7,309,760	4,747,300	2,562,460	166.93	0.83	16.00
MAY	8,221,520	5,307,100	2,914,420	170.23	0.75	15.30
JUNE	8,296,924	5,123,500	3,173,424	160.45	0.79	14.90
JULY	6,846,040	3,727,300	3,118,740	119.63	0.81	14.70
AUGUST	7,582,862	5,015,300	2,567,562	168.70	0.86	15.80
SEPTEMBER	6,820,445	4,030,500	2,789,945	139.47	0.85	15.40
OCTOBER	6,616,409	3,649,400	2,967,009	129.92	0.92	14.70
NOVEMBER	5,723,145	2,741,300	2,981,845	106.07	0.94	13.90
DECEMBER	6,206,627	3,934,000	2,272,627	149.72	89.00	13.70
TOTAL	88,060,450	52,703,600	35,356,850	1,832.73		
AVERAGE	7,338,371	4,391,967	2,946,404	152.73	8.19	14.92



2023 Solids processing Annual report

			TOTAL		
MONTH		HOU	JRS		OPERATIN G
	1	2	3	4	HOURS
JANUARY	68.50	124.50	117.25	54.00	364.25
FEBRUARY	141.50	134.00	127.00		402.50
MARCH	167.00	157.75	149.75		474.50
APRIL	130.25	126.50	120.00		376.75
MAY	143.50	146.50	141.75		431.75
JUNE	122.00	124.00	125.25		371.25
JULY	95.75	93.25	90.75		279.75
AUGUST	128.50	123.50	118.50		370.50
SEPTEMBER	97.75	99.75	101.75		299.25
OCTOBER	89.50	93.00	96.50		279.00
NOVEMBER	67.25	72.25	77.25		216.75
DECEMBER		107.25	114.75	99.75	321.75
TOTAL	1,251.50		1,380.50	153.75	4,188.00
AVERAGE	114.10		100.43	92.08	349.00



2023

SOLIDS PROCESSING

ANNUAL REPORT

	AVERAGE	POLYMER	POLYMER	AVERAGE
MONTH	COST	COST	USAGE	SOLIDS
	\$/TON	TOTAL,\$	GALLONS	CAPTURE, %
JANUARY	28.40	4,632.04	284.00	0.99
FEBRUARY	33.48	5,183.81	317.83	0.99
MARCH	32.65	6,456.97	395.89	0.99
APRIL	27.15	4,545.76	278.71	0.99
MAY	24.95	4,243.37	260.17	0.99
JUNE	26.59	4,247.12	260.40	0.99
JULY	29.53	3,517.74	215.68	0.99
AUGUST	26.61	4,479.22	274.63	0.99
SEPTEMBER	24.87	3,426.24	210.07	0.99
OCTOBER	26.02	3,340.45	204.81	0.98
NOVEMBER	25.00	2,623.30	160.84	0.99
DECEMBER	26.08	3,890.10	238.51	0.99
			1	
TOTAL		50,586.12	3,101.54	
AVERAGE	27.61			0.99

Polymer cost/gal \$13.80





2022-2023 Comparison of Operations

REMOVAL OF SUSPENDED SOLIDS

2022

RAW TO FINAL 97.32% 2023 RAW TO FINAL 97.14%

REMOVAL	OF	5-DAY	C.B.O.D.

(Carbonaceous Biochemical Oxygen Demand)

2022 RAW TO FINAL

96.34%

2023 RAW TO FINAL

97.78%

REMOVAL OF AMMONIA				
2022	2023			
RAW TO FINAL	RAW TO FINAL			
99.93%	99.68%			

REMOVAL OF TOTAL PHOSPHORUS							
2023							
RAW TO FINAL							
80.42% 81.10%							

COST OF OPERATION							
2023 2022							
PAYROLL & BENEFITS	\$1,638,074	\$1,500,962					
UTILITIES (electric, water & sewage)	\$559,698	\$467,556					
CHEMICALS	\$101,543	\$84,132					
EQUIPMENT MAINTENANCE	\$163,595	\$123,957					
MISCELLANEOUS	\$351,156	\$200,639					
CAPITAL EQUIPMENT	\$113,758	\$0					
OPERATING COST TRANSFER	\$982,006	\$802,732					
TOTAL	\$3,909,830	\$3,179,980					
COST PER MILLION GALLONS	\$1,163.26	\$869.20					



2022-2023 TEMPERATURE AND PRECIPITATION DATA

MONTH	T	AVEF EMPEI (degi	RATUR	E	PRECIPITATION (INCHES)				
MONTH	20.	22	20	23	RAIN	FALL	ANNUAL SNOWFALL		
	MAX	MIN	MAX	MIN	2022 2023		2022 2023		
JANUARY	55	-5	62	9	0.81	3.05	3.7	6.3	
FEBRUARY	59	7	65	9	2.98	3.14	3	0.1	
MARCH	73	15	63	17	2.68	3.83	0.4	3.9	
APRIL	69	24	31	20	2.05	2.20	0.8	0.5	
MAY	90	40	86	22	5.01	1.92			
JUNE	96	49	90	45	2.64	2.38			
JULY	93	57	91	58	4.27	3.09			
AUGUST	92	53	89	49	2.98	4.32			
SEPTEMBER	85	39	90	46	2.68	0.41			
OCTOBER	77	32	87	26	0.28	4.06	0.28		
NOVEMBER	75	14	70	18	1.36	1.11	1.4		
DECEMBER	58	-8	62	22	1.20	1.60	0.4	0.5	
TOTAL					28.94	31.11	9.98	11.3	
AVERAGE	76.8	26.4	73.8	28.4					
YEARLY AVERAGE	53	3.7	51.6						
HISTORICAL AVERAGE		50	50.5			.09	26	6.4	





Sewer Maintenance

The Sewer Maintenance department maintains a sanitary sewer system that reaches far outside the City of Findlay corporation limits. The sanitary sewer system has over 20,000 customers and is estimated to consist of 306.87 miles of sewers and several thousand manholes. They also maintain 15.1 miles of sanitary force mains from various pump stations located both within the City of Findlay corporation limits and in the outlying area. Located on these force mains are 36 air relief valves that require weekly maintenance and replacement as needed to ensure efficient pumping and proper flows from the lift stations to the plant.

A total of 98 reports of sewer problems were investigated in the year 2023. About 5% of the

reports were due to a problem within the City's sewer system while the remaining 95% were determined to be in the homeowner's sewer.

As part of a preventive maintenance program, all City sanitary sewers are cleaned every eight years and those areas that historically have sewer problems are monitored and cleaned more often. In 2023, a total of 35.3 miles of sanitary sewer were cleaned by a high-pressure water sewer cleaner and vacuum truck called the sanitary vactor. This cleaning removed 94 cubic feet of debris from the City's sanitary system.



Throughout the year, 7 sanitary sewer pipes and 7 storm

Vactor

sewer pipes were repaired which had either collapsed or were damaged. The Sewer Maintenance Department also repaired manholes, constructed new manholes, adjusted castings to grade, and conducted dye tests.

The Sewer Maintenance Department, along with the Water Distribution Department, is required to locate and mark sewers and related structures as part of the Ohio Utilities Protection Service. During 2023, there were 11,743 requests for sewer locates.

In 2023, 84,477 feet of sanitary sewer and 18,923 feet of storm sewer were televised and assigned a rating based on their condition.



2023

Sewer Maintenance Annual Report of Operations

			CLEANING CATCH BASI																
MONTH	BUC	СКЕТ			VAC	TOR			JET	CATCH	BASINS	CONFINED SPACE	PACE ADJUSTED	CEI/CD	ISSUE WITH CITY SEWER #	TELEVISED		PIPE REPAIRS	
	SANITARY FEET	STORM FEET	SANITARY FEET	DEBRIS REMOVED FT3	STORM FEET	DEBRIS REMOVED FT3	BASINS #	DEBRIS REMOVED FT3	FLUSHING FEET	REPAIRED #	PATCHED #	ENTRIES				SANITARY FEET	STORM FEET	SANI.	STORM
JANUARY	0	0	10,250	5	0	0	158	1,414	0	0	24	0	0	13	0	4,311	0	0	0
FEBRUARY	0	0	10,624	3	0	0	112	909	0	0	17	0	0	8	1	5,538	433	2	0
MARCH	0	0	13,345	2	190	0	181	1,919	0	2	21	0	10	11	1	7,814	5,233	0	0
APRIL	0	0	19,645	1	776	0	107	1,010	0	1	6	3	1	5	0	4,616	4,825	2	1
MAY	0	0	26,890	16	1,163	4	196	1,616	0	5	15	1	0	9	1	4,454	3,170	1	1
JUNE	0	0	22,475	15	1,488	3	252	2,121	0	2	24	1	1	4	0	4,770	4,185	0	2
JULY	0	0	18,350	3	0	0	268	2,727	0	1	29	1	0	5	0	9,986	528	1	0
AUGUST	0	0	24,050	6	215	0	158	1,515	0	2	31	1	1	7	1	6,905	200	1	2
SEPTEMBER	0	0	9,490	9	430	0	100	1,010	0	0	12	0	0	10	0	9,617	14	0	1
OCTOBER	0	0	10,482	5	0	0	177	1,313	0	0	10	0	0	6	0	10,021	0	0	0
NOVEMBER	0	0	13,765	27	475	0	165	1,515	0	1	18	0	2	10	1	9,097	275	0	1
DECEMBER	0	0	7,105	2	0	0	56	303		0	9	0	3	10	0	7,348	60	0	0
TOTAL	0	0	186,471	94	4,737	7	1,930	17,372	0	14	216	7	18	98	5	84,477	18,923	7	7
2022 TOTA	0	0	179,948	52	13,432	7	873	8,820	0	34	287	5	28	92	6	56,415	56,434	6	18

SEWER MAINTENANCE COST OF OPERATION

	2023	2022
PAYROLL & BENEFITS	\$808,624	\$843,681
UTILITIES (electric, water & sewage)	\$10,044	\$12,700
WATER & SEWER LINE MAINTENANCE	\$19,365	\$26,530
VEHICLE & EQUIPMENT MAINTENANCE	\$20,958	\$18,050
FUEL	\$37,991	\$37,528
MISCELLANEOUS	\$64,066	\$46,773
CAPITAL EQUIPMENT	\$143,762	\$51,059
TOTAL	\$1,104,810	\$1,036,320



Stormwater Maintenance

The Stormwater Maintenance Department works in a combined effort with Sewer Maintenance to maintain and repair the storm sewer system within the City of Findlay corporation limits. The collection system consists of approximately 6,400 catch basins connected by an unknown amount of sewer line and manholes. Throughout the year, 1,930 catch basins along with 4,737 feet of storm sewer were cleaned. These efforts removed 643 cubic feet of debris from the stormwater collection system. A total of 216 catch basins were patched.

In an effort to decrease stormwater pollution, the Public Works department removed 816 cubic yards of debris from the streets by street sweeping and prevented this pollution from entering into the storm sewer system and then flowing into the receiving stream.

With Ordinance 2015-37 and 2015-38 concerning illicit discharge, illegal connection control, drainage, and erosion and sediment control in place, Mitchell Heacock, in the Engineering Department has been able to put the Storm Water Management Plan (MS4) into action. The plan addresses the following six minimum controls which were set forth by the OEPA:

- - Public Education and Outreach
 - Public Participation and Involvement
 - Illicit Discharge Detection and Elimination
 - Construction Site Runoff Control
 - Post Construction Storm Water Management
 - Pollution Prevention and Good Housekeeping

Each of these controls have BMPs (Best Management Practices) or activities which have measurable goals. Each of these goals have an implementation schedule to track the progress of the activities that are being achieved.

All City departments submitted their of Municipal Operations Pollution Prevention/Good Housekeeping reports which require each city department to complete quarterly non-stormwater inspections during dry weather, semi-annual stormwater inspections during rain events, and an annual site inspection report each year that sums up all findings from the year and explains the actions taken to correct any problems. There were again no significant issues found from this reporting.

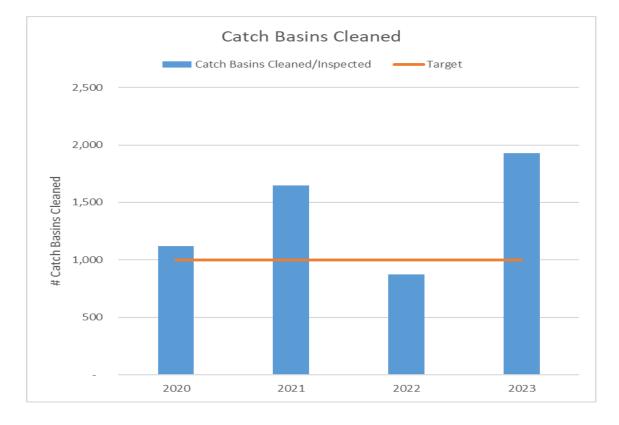
Continued outreach to the public through the distribution of fliers in the water and sewer bills helps to alert residents of the hazards of storm water pollution and how they can prevent it. Educational materials were also provided during field trips and tours given at the WPCC.

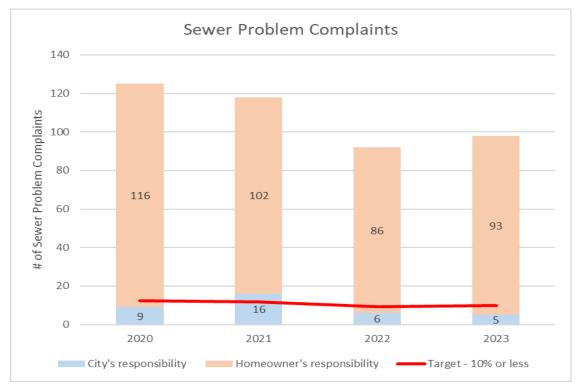


STORMWATER MAINTENANCE COST OF OPERATION									
2023 2022									
PAYROLL & BENEFITS	\$180,344	\$168,756							
WATER LINE, SEWER LINE, & CATCH									
BASIN MAINTENANCE	\$8,842	\$14,218							
VEHICLE & EQUIPMENT MAINTENANCE \$5,973 \$6,403									
STREET SWEEPING \$33,546 \$4,050									
MISCELLANEOUS \$11,669 \$44,988									
CAPITAL EQUIPMENT \$0 \$4,824									
TOTAL \$240,374 \$243,240									

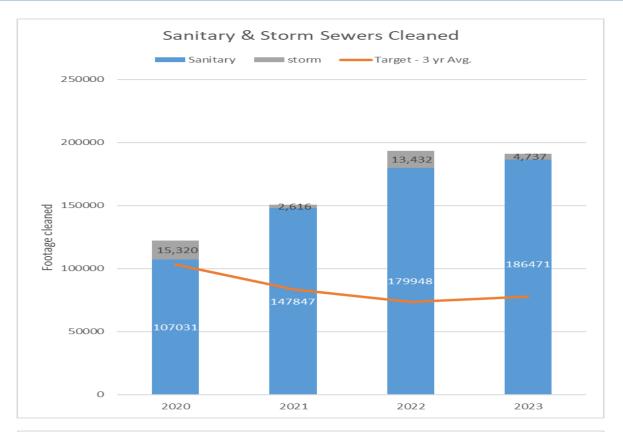


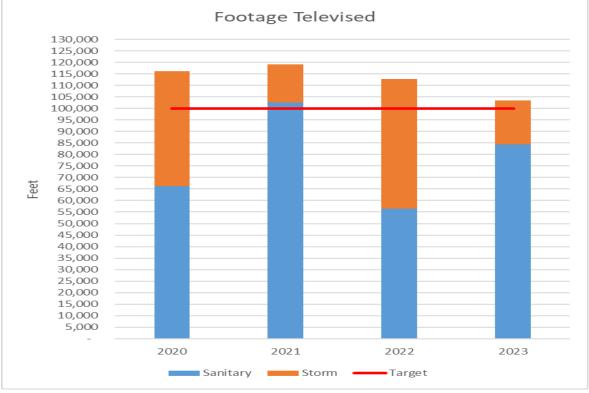
Key Performance Indicators (KPIs)











More details on Key Performance Indicators can be found at: <u>www.findlayohio.com/performance</u>